

November 7 , 2002

Re: Pactiv Corporation 099-16299-000028

TO: Interested Parties / Applicant

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within (18) eighteen days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) the date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for consideration at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

(over)

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
Administrator, Christine Todd Whitman
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosure

FNTVPMOD.wpd 8/21/02

November 7, 2002

Mr. Dennis Hughes
Pactiv Corporation
1411 Pidco Drive
Plymouth, IN 46563

Re: 099-16299-00028
Third Significant Permit Modification to
Part 70 No.: T 099-5969-00028

Dear Mr. Hughes:

Pactiv Corporation was issued a permit on June 28, 1999 for a packaging materials manufacturing plant. A letter requesting changes to this permit was received on May 9, 2002. Pursuant to the provisions of 326 IAC 2-7-12 a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of:

- (1) changing the designation of profile extrusion line from PL-4 to PL-3,
- (2) replacing two small bubble pack lines with a single high-speed bubble pack line, and
- (3) upgrading existing polyethylene foam sheet extrusion line PL-2 and redesignating this line as BG-1.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Scott Fulton, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call at (800) 451-6027, press 0 and ask for Scott Fulton or extension (3-5691), or dial (317) 233-5691.

Sincerely,

Original Signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

SDF

cc: File - Marshall County
U.S. EPA, Region V
Marshall County Health Department
Northern Regional Office
Air Compliance Section Inspector - Rick Reynolds
Compliance Data Section - Karen Nowak
Administrative and Development
Technical Support and Modeling - Michele Boner

PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**Pactiv Corporation
1411 Pidco Drive
Plymouth, Indiana 46563**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T099-5969-00028	Date Issued: June 28, 1999
First Significant Permit Modification No.: 099-11161-00028	Date Issued: November 4, 1999
Second Significant Permit Modification No.: 099-11177-00028	Date Issued: October 18, 1999
First Administrative Amendment No.: 099-11469-00028	Date Issued: November 4, 1999
First Minor Permit Modification No.: 099-12283-00028	Date Issued: July 11, 2000
Second Administrative Amendment No.: 099-13841-00028	Date Issued: April 10, 2001
Third Administrative Amendment No.: 099-15185-00028	Date Issued: November 29, 2001
Third Significant Permit Modification No.: 099-16299-00028	Affected Pages: 4, 6, 29, 30, 31, and 32, with 31a and 32a added
Issued by: Original Signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: November 7, 2002

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary packaging materials manufacturing plant.

Responsible Official:	Dennis Hughes
Source Address:	1411 Pidco Drive, Plymouth, Indiana 46563
Mailing Address:	1411 Pidco Drive, Plymouth, Indiana 46563
General Source Phone Number:	219-936-7065
SIC Code:	3086
County Location:	Marshall
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD Rules Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary packaging materials manufacturing plant consists of the following emission units and pollution control devices:

- (1) Three (3) profile extrusion lines, identified as PL-1, BG-1, and PL-3, respectively, using one (1) regenerative thermal oxidizer, identified as CE03, as control which exhausts to one (1) stack, identified as SC-3. Each profile extrusion line consists of the following equipment:
 - (a) One (1) extruder;
 - (b) One (1) foam profile die;
 - (c) One (1) curing chamber;
 - (d) One (1) scrap line with an automated grinder and reclaim, identified as GR-8; and
 - (e) One (1) scrap line with an automated grinder and reclaim, identified as GR-9.
- (2) Two (2) enclosed foam sheet extrusion lines, identified as SL-1 and SL-2, respectively. The foam sheet extrusion line identified as SL-1 uses one (1) regenerative thermal oxidizer, identified as CE04, as control which exhausts to one (1) stack identified as SC-2. The foam sheet extrusion line identified as SL-2 uses one (1) regenerative thermal oxidizer, identified as CE04. Each foam sheet line consists of the following equipment.
 - (a) One (1) extruder;
 - (b) One (1) foam sheet die;
 - (c) One (1) curing chamber; and
 - (d) One (1) scrap line with an automated grinder and reclaim, identified as GR-1.

Insignificant Thresholds: Activities with emissions equal to or less than thresholds require listing only

Lead (Pb) = 0.6ton/year or 3.29 lbs/day

Carbon Monoxide (CO) = 25 lbs/day

Sulfur Dioxide (SO₂) = 5 lbs/hour or 25 lbs/day

Particulate Matter (PM) = 5 lbs/hour or 25 lbs/day

Nitrogen Oxides (NO_x) = 5 lbs/hour or 25 lbs/day

Volatile Organic Compounds = 3 lbs/hour or 15 lbs/day

- (a) Two (2) bubble pack wrap lines
- (b) Heat seal on bubble pack
- (c) Two (2) Kraft paper package mailer lines
- (d) Plank laminator
- (e) VOC emissions from the customer scrap recycling process
- (f) one (1) virgin resin storage silo, identified as ES-2, exhausting through one (1) stack identified as V2;
- (g) one (1) 30,000 gallon non-VOC (non-HAP) blowing agent storage tank, identified as ES-3;
- (h) one (1) 18,000 gallon HAP blowing agent storage tank, identified as ES-4;
- (i) one (1) reclaim resin storage silo, identified as ES-12, exhausting through one (1) stack identified as V12;
- (j) one (1) railcar receiver bin, identified as ES-15, with particulate matter emissions controlled by a baghouse, exhausting through one (1) stack identified as V15;
- (k) two (2) flexographic water based printers.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary packaging materials manufacturing plant is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION D.1 FACILITY OPERATION CONDITIONS

- (1) Three (3) profile extrusion lines, identified as PL-1, BG-1, and PL-3 respectively, using one (1) regenerative thermal oxidizer, identified as CE03, as control which exhausts to one (1) stack, identified as SC-3. Each profile extrusion line consists of the following equipment:
 - (a) One (1) extruder;
 - (b) One (1) foam profile die;
 - (c) One (1) curing chamber; and
 - (d) One (1) scrap line with an automated grinder and reclaim, identified as GR-8.
 - (e) One (1) scrap line with an automated grinder and reclaim, identified as GR-9.
- (2) Two (2) enclosed foam sheet extrusion lines, identified as SL-1 and SL-2, respectively. Both foam sheet extrusion lines use one (1) regenerative thermal oxidizer, identified as CE04, as control which exhausts to one (1) stack identified as SC-4. Each foam sheet line consists of the following equipment.
 - (a) One (1) extruder;
 - (b) One (1) foam sheet die;
 - (c) One (1) curing chamber; and
 - (d) One (1) scrap line with an automated grinder and reclaim, identified as GR-1.
- (3) Two (2) 12,000 gallon blowing agent storage tanks, resulting in fugitive emissions.
- (4) Insignificant degreasing operation.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

- (a) The input of blowing agent for the entire source shall be limited to 3,500 tons per twelve (12) month period, rolled on a monthly basis. This input limitation shall result in equivalent to VOC emissions of 249 tons per year, rolled on a monthly basis. The VOC potential to emit (PTE) for the entire source shall not exceed 249 tons per year. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.
- (b) During the first twelve (12) months of operation, the input of VOC raw material usage shall be limited such that the total usage divided by the accumulated months of operation shall not exceed 291.6 tons per month.
- (c) Any change or modification which may increase the VOC PTE of this source to greater than 250 tons per year, shall require prior approval from IDEM, OAM before such change may occur.

D.1.2 General Reduction Requirements for New Facilities [326 IAC 8-1-6]

- (a) Pursuant to CP No. 099-9807-00028, issued on October 29, 1998, and Significant Source Modification 099-16015-00028, Best Available Control Technology (BACT) for the source has been determined to be the use of regenerative thermal oxidizers CE03 and CE04 and their respective capture systems. CE03 and CE04 and their respective capture systems must each have an overall control efficiency of 98% for the manufacturing process of the foam sheet and profile lines, and must each have an overall control efficiency of 95% for the scrap lines.
- (1) CE03 and CE04 and their respective capture systems shall each operate at all times to demonstrate compliance with the VOC limit of 249 tons per year, rolled on a monthly basis.
- (2) When operating:
- (A) CE03 and CE04 shall each maintain a minimum operating temperature of 1500EF, or a minimum operating temperature as determined by the most recent compliance test that achieves a destruction efficiency of 98% for the manufacturing process of the foam sheet and profile lines and 97% destruction efficiency for the scrap lines.
- (B) the capture system associated with CE03 shall be maintained as follows:
- (i) Up to the time a minimum capture system inlet negative pressure achieving 100% capture efficiency is established by the first performance test, the capture system inlet pressure shall be maintained at the design pressure that is estimated to achieve the desired capture efficiency of 100%.
- (ii) Upon completion of the first performance test, the owner or operator shall maintain the minimum capture system inlet negative pressure established by the first performance test.
- (iii) Upon completion of all subsequent performance tests, the owner or operator shall maintain the minimum capture system inlet negative pressure established by the most recent performance test.
- (b) Retention data tests, to determine the appropriate emission factors for the various grade types, shall be ran on all grades being utilized by the source. The source shall calculate the potential to emit (PTE) based on the worst case emission factors until the various emission factors for all other sheet grades have been verified and approved by OAM.

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) overspray from SL-1, SL-2, PL-1, BG-1, PL-3, and PL-4 shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall not exceed the pound per hour emission rate established as E in the following formula:

$$E = 4.10 P^{0.67} \quad \text{where} \quad \begin{array}{l} E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour} \end{array}$$

D.1.4 Cold Cleaner Degreasing Operation [326 IAC 8-3-2]

The Permittee of the insignificant degreasing operation shall:

- (1) Equip the cleaner with a cover;
- (2) Equip the cleaner with a facility for draining cleaned parts;
- (3) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (5) Provide a permanent, conspicuous label summarizing the operating requirements;
- (6) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-4(c)(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for SL-1, SL-2, PL-1, BG-1, PL-3, and PL-4 and any control devices.

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-7-6(1)]

- (a) Testing of this facility is specifically required by this permit. Compliance with the control efficiency, minimum operating temperature, and minimum negative pressure at the inlet of the capture system specified in Condition D.1.9, shall be determined by a performance test conducted in accordance with Section C Performance Testing.

Retention data tests shall also be determined by a performance test conducted in accordance with Section C Performance Testing.

- (b) During the period within sixty (60) days after the issuance of the first minor permit modification, a performance test on the regenerative thermal oxidizer designated as CE04, shall be required to demonstrate that the source is complying with 326 IAC 8-1-6.
 - (1) If the oxidizer is determined to demonstrate compliance, the required temperature and control efficiency shall be specified.
 - (2) If the oxidizer is determined to not demonstrate compliance, the efficiency needed to comply with 326 IAC 8-1-6 shall be determined by the performance test.
 - (3) The source shall be required to comply with the required control efficiency as determined by the performance test.
- (c) During the period within sixty (60) days after commencement of operation under Significant Permit Modification 099-16299-00028, a performance test, as approved by the Commissioner, on regenerative thermal oxidizer CE03 and its associated capture system, shall be performed to determine the thermal oxidizer operating temperature and the negative pressure at the inlet of the capture system necessary to achieve the 98% overall control efficiency required in Condition D.1.2(a).
 - (1) If the oxidizer and capture system are determined to be in compliance, the required temperature, capture system inlet pressure, and overall control efficiency shall be specified.

- (2) If the oxidizer and(or) capture system is(are) determined to not be in compliance, additional testing shall be conducted until a temperature for thermal oxidizer CE03 and(or) an inlet pressure for the capture system is(are) established that demonstrate compliance with the overall control efficiency of 98% required in Condition D.1.2(a).
- (d) Retention data tests, shall be ran on all grades being utilized by the source to verify the emission factors used in establishing the blowing agent and VOC emission limits. The source shall calculate the potential to emit (PTE) based on the worst case emission factors until the various emission factors for all other sheet grades have been verified and approved by OAM.

D.1.7 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions D.1.1 and D.1.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3)(A) using formulation data supplied by the coating manufacturer. IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.8 Particulate Matter (PM)

Pursuant to CP No. 099-9807-00028, issued on October 28, 1998, and Significant Source Modification 099-16015-00028, the dust collectors for PM control shall be in operation at all times when SL-1, SL-2, PL-1, BG-1, PL-3 and PL-4 are in operation.

D.1.9 Regenerative Thermal Oxidizer and Capture System Operations

- (a) CE03 and CE04 and their respective capture systems shall each operate at all times SL-1, SL-2, PL-1, BG-1, PL-3, and PL-4 are in operation to demonstrate compliance with the VOC limit of 249 tons per year, rolled on a monthly basis.
- (b) When operating:
 - (1) CE03 and CE04 shall each maintain a minimum operating temperature of 1500EF, or a minimum operating temperature as determined by the most recent compliance test that achieves a destruction efficiency of 98% for the manufacturing process of the foam sheet and profile lines and 97% destruction efficiency for the scrap lines.
 - (2) the capture system associated with CE03 shall be maintained as follows:
 - (A) Up to the time a minimum capture system inlet negative pressure achieving 100% capture efficiency is established by the first performance test, the capture system inlet pressure shall be maintained at the design pressure that is estimated to achieve the desired capture efficiency of 100%.
 - (B) Upon completion of the first performance test, the owner or operator shall maintain the minimum capture system inlet negative pressure established by the first performance test.
 - (C) Upon completion of all subsequent performance tests, the owner or operator shall maintain the minimum capture system inlet negative pressure established by the most recent performance test.

- (c) The owner or operator shall install, calibrate, operate and maintain:
- (1) a device that continuously records the combustion temperature of any effluent gases incinerated. This device shall have an accuracy of $\pm 2.5^{\circ}\text{C}$ or ± 0.75 percent of the temperature range measured in degrees Celsius, whichever is greater; and
 - (2) a device that intermittently monitors and records the pressure at the inlet of the capture system;
- to achieve compliance with the limit in Condition D.1.2.
- (d) Any change or modification which may increase the VOC actual emissions to 250 tons per year or more shall require prior approval from IDEM, OAM before such change may occur.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.10 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.1 and D.1.2 the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.1.1 and D.1.2.
- (1) The amount of VOC content by weight of the blowing agent in all stages of the processes (winder, warehouse finished goods and scrap recycling). Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Spreadsheet data shall be maintained to demonstrate how the VOC contents were determined;
 - (2) A log of the dates of use;
 - (3) The total blowing agent usage for each month; and
 - (4) Monthly emissions in pounds of VOC.
- (b) Continuous or intermittent readings of the minimum operating temperature shall be maintained to document compliance with Condition D.1.9.
- (c) Intermittent readings of the minimum negative pressure at the inlet of the capture system shall be maintained to document compliance with Condition D.1.9.
- (d) Records of all malfunctions (any sudden unavoidable failure of the thermal oxidizers, CE03 and CE04) which result in violations of the Office of Air Management rules shall be kept for a period of three (3) years and made available to OAM upon request. When a malfunction resulting in a limit or parameter deviation occurs that lasts in excess of one (1) hour, notification of the condition shall be made to OAM no later than four (4) daytime business hours after the occurrence.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.11 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.1 and D.1.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD)
for
a Significant Source Modification to a Part 70 Permit
and
a Significant Permit Modification to a Part 70 Permit

Source Background and Description

Source Name:	Pactiv Corporation
Source Location:	1411 Pidco Drive, Plymouth, Indiana 46563
County:	Marshall
SIC Code:	3089
Operation Permit No.:	099-5969-00028
Operation Permit Issuance Date:	June 28, 1999
Significant Source Modification No.:	099-16015-00028
Significant Permit Modification No.:	099-16299-00028
Permit Reviewer:	SDF

The Office of Air Quality (OAQ) has reviewed an application from Pactiv Corporation relating to a modification to their existing packaging materials manufacturing plant.

Request

On May 9, 2002, Pactiv Corporation submitted an application to:

- (1) change the designation of profile extrusion line from PL-4 to PL-3,
- (2) replace two small bubble pack lines with a single high-speed bubble pack line, and
- (3) upgrade existing polyethylene foam sheet extrusion line PL-2 and redesignate this line as BG-1.

Through a phone conversation with Pactiv Corporation's consultant (Smith Aldridge, Inc.) the following facts regarding the proposed changes were provided.

Changing the designation of profile extrusion line PL-4 to PL-3 is an administrative change only. There will be no additional equipment added, no changes to the existing equipment, and no increases in the production rate or capacity. Thus, there are no emission increases associated with this proposed change.

Replacing the two small bubble pack lines with one high speed bubble pack line will not generate an increase in emissions because the replacement will not result in an increase in capacity or throughput of any other existing emission units and there will not be any increases in the capacity or bubble pack line throughput as a result of having the new high-speed bubble pack line instead of the two original pack lines.

Upgrading existing polyethylene foam sheet extrusion line PL-2 consists of upgrading the existing line equipment to allow an increased production rate of 2,200 pounds of product per hour. Since the line operates independently from the others, the proposed upgrade will not result in an increase in emissions from any other existing emission units.

However, since the proposed upgraded line will have an increased production rate, there will be an associated increase in emissions. The only pollutant emissions generated by proposed upgraded line PL-2 (now redesignated as BG-1) is VOCs.

Based on the new maximum production rate of 2,200 lb/hr, approved emission factor of 0.38 lb VOC/100 lb product, 8,760 hours of operation, and emissions before controls, the unrestricted potential to emit (UPTE) from proposed line BG-1 is determined to be 36.62 tons VOC/yr.

To satisfy the requirements of 326 IAC 8-1-6, the VOC emissions will be controlled by a regenerative thermal oxidizer with an overall control efficiency of 98%. The VOC emissions after controls are estimated to be 0.73 tons/yr.

Pactiv Corporation's source emission units do not generate any hazardous air pollutants (HAP).

Therefore, this proposed modification shall be permitted via a significant source modification pursuant to 326 IAC 2-7-10.5(f)(2) and (f)(4)(D) which state that modifications subject to the requirements of 326 IAC 8-1-6 and have VOC UPTE greater than or equal to 25 tons per year, respectively, shall be permitted via a significant source modification.

The proposed modification shall be incorporated into the Part 70 permit via a Significant Permit Modification pursuant to 326 IAC 2-7-12.

Existing Approvals

The source was issued Part 70 permit 099-5969-00028 on June 28, 1999. The source has been operating under this permit and the following subsequent approvals:

- | | |
|--|--------------------------------|
| (a) First Minor Source Modification 099-10880-00028 | Date Issued: May 19, 1999 |
| (b) First Significant Permit Modification 099-11161-00028 | Date Issued: November 4, 1999 |
| (c) Second Significant Permit Modification 099-11177-00028 | Date Issued: October 18, 1999 |
| (d) First Administrative Amendment 099-11469-00028 | Date Issued: November 4, 1999 |
| (e) First Minor Permit Modification 099-12283-00028 | Date Issued: July 11, 2000 |
| (f) Second Administrative Amendment 099-13841-00028 | Date Issued: April 10, 2001 |
| (g) First Significant Source Modification 099-13908-00028 | Date Issued: November 11, 2001 |
| (h) Third Administrative Amendment No.: 099-15185-00028 | Date Issued: November 29, 2001 |

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Significant Source and Significant Permit Modifications be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application.

Emission Calculations

The emissions generated by the equipment of the proposed modification are VOC emissions from proposed line BG-1.

(a) Unrestricted Potential to Emit (UPTE):

The following calculations determine the VOC unrestricted potential to emit (UPTE) from line BG-1, based on the new maximum production rate of 2,200 lb/hr, approved emission factor of 0.38 lb VOC/100 lb product*, 8,760 hours of operation, and emissions before controls.

$$2,200 \text{ lb product/hr} * 0.38 \text{ lb VOC/100 lb product} * 8760 \text{ hr/yr} * 1/2000 \text{ ton VOC/lb VOC} = \mathbf{36.62 \text{ tons VOC/yr}}$$

- * The emission factor used to determine the line emissions are based on an emission factor that was obtained via stack testing. The emission factor has been approved and used for the lines in the previous permits due to the fact that there are no other emission factors available. Further since the proposed line BG-1 consists of upgrades to existing equipment from existing line PL-2 for which the emission factor was approved, it is determined that the emission factor can be used to estimate the emissions from the proposed line BG-1.

(b) Emissions After Controls:

The VOC emissions from proposed line BG-1 shall be controlled by a regenerative thermal oxidizer with an overall control efficiency of 98%.

The following calculations determine the VOC emissions after controls.

$$36.62 \text{ tons VOC/yr} * (1 - 0.98) = \mathbf{0.73 \text{ tons VOC/yr}}$$

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.”

This table reflects the PTE before controls due to the modification based on the above estimated emissions calculations. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	-
PM-10	-
SO ₂	-
VOC	36.62
CO	-
NO _x	-

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

The VOC UPTE is greater than 25 tons per year. Therefore, the proposed modification shall be permitted via a significant source modification pursuant to 326 IAC 2-7-10.5(f)(4)(D) which states modifications with VOC PTE before controls greater than or equal to 25 tons per year shall be permitted via a significant source modification.

County Attainment Status

The source is located in Marshall County.

Pollutant	Status
PM ₁₀	attainment or unclassifiable
SO ₂	attainment or unclassifiable
NO ₂	attainment or unclassifiable
Ozone	attainment or unclassifiable
CO	attainment or unclassifiable
Lead	attainment or unclassifiable

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Marshall County has been designated as attainment or unclassifiable for ozone. Therefore, the VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration, 326 IAC 2-2 and 40 CFR 52.21.

(b) Marshall County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions

Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited)*:

	PM (tons/yr)	PM ₁₀ (tons/yr)	SO ₂ (tons/yr)	NO _x (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Comb. HAPs (tons/yr)
Source	<250	<250	<250	<250	>100 but <250	<250	-

PSD Major Levels	250	250	250	250	250	250	-
Part 70 Major Levels	-	100	100	100	100	100	25

* The existing source PTE was obtained from the Technical Support Document (TSD) of Significant Source Modification 099-13908-00028, issued on October 4, 2001.

- (a) This existing source is not a major PSD stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more and it is not one of the 28 listed source categories.
- (b) This existing source is a Title V major stationary source because the VOC PTE exceeds the applicable level of 100 tons/yr.

Modification Potential to Emit (PTE):

Modification PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

	PM (tons/yr)	PM10 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC* (tons/yr)	CO (tons/yr)	Comb. HAPs (tons/yr)
Line BG-1	-	-	-	-	0.73	-	-

PSD Sig. Levels	25	15	40	40	40	100	-
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* The VOC emissions are controlled by a regenerative thermal oxidizer with an overall control efficiency of 98%.

This proposed modification is not a major PSD modification because no attainment regulated pollutant is emitted at a rate greater than its respective significant level.

Source Status After the Proposed Modification

Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited) after the proposed modification:

	PM (tons/yr)	PM10 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Comb. HAPs (tons/yr)
Source	<250	<250	<250	<250	>100 but <250	<250	-

PSD Major Levels	250	250	250	250	250	250	-
Part 70 Major Levels	-	100	100	100	100	100	25

- (a) This source after the proposed modification will not be a major PSD stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more and it is not one of the 28 listed source categories.
- (b) This source after the proposed modification will still be a Title V major stationary source because the VOC PTE still exceeds the applicable level of 100 tons/yr.

Federal Rule Applicability

(a) New Source Performance Standards (NSPS):

There are no New Source Performance Standards (326 IAC 12 and 40 CFR Part 60) that apply to the proposed source.

(b) National Emission Standards for Hazardous Air Pollutants (NESHAPs):

There are no National Emission Standards for Hazardous Air Pollutants (326 IAC 14 and 20 and 40 CFR Parts 61 and 63) that apply to this proposed source.

State Rule Applicability

(a) Entire Source Rules:

(1) 326 IAC 1-6-3 (Preventive Maintenance Plan):

The proposed source is required to have a preventive maintenance plan for the emission units and control devices of the source.

(2) 326 IAC 2-4.1 (HAP Major Sources)

This source is not subject to the requirements of 326 IAC 2-4.1 because no single hazardous air pollutant (HAP) emissions exceed 10 tons per year, and the combined HAP emissions are less than 25 tons per year.

(3) 326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because the source VOC emissions exceed the applicable level of 100 tons per year.

(4) 326 IAC 5-1-2 (Opacity Limitations)

Opacity shall not exceed an average of 40% in any one 6 minute averaging period. Opacity shall not exceed 60% for more than a cumulative total of fifteen minutes.

(b) Individual Unit Rules:

326 IAC 8-1-6 (State BACT Requirements):

Since no other Article 8 rules apply and the unrestricted potential to emit (UPTE) is greater than 25 tons per year, it is determined that 326 IAC 8-1-6 applies to proposed Line BG-1.

To satisfy the requirements of 326 IAC 8-1-6, Pactiv Corporation has proposed controlling the VOC emissions via regenerative thermal oxidation with an overall control efficiency of 98%.

The regenerative thermal oxidizer is determined to be BACT for this operation. The emissions will be reduced from 36.62 tons per year to 0.73 tons per year.

Changes to the Existing Part 70 Permit

The proposed modification shall be incorporated into the Part 70 permit via Significant Permit Modification 099-16299-00028, pursuant to 326 IAC 2-7-12.

The Significant Permit Modification shall consist of the following changes to the permit:

(1) Changing the Designation of Profile Extrusion Line PL-4 to PL-3:

In order to change the designation of profile line PL-4 to PL-3, the following changes to the permit shall be made:

(a) The unit description of Condition A.2 shall be changed as follows to redesignate PL-4 as PL-3.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary packaging materials manufacturing plant consists of the following emission units and pollution control devices:

(1) Three (3) profile extrusion lines, identified as PL-1, PL-2, and PL-~~4~~**3**, respectively, using one (1) regenerative thermal oxidizer, identified as CE03, as control which exhausts to one (1) stack, identified as SC-3. Each profile extrusion line consists of the following equipment:

- (a) One (1) extruder;
- (b) One (1) foam profile die;
- (c) One (1) curing chamber; and
- (d) One (1) scrap line with an automated grinder and reclaim, identified as GR-8.

.....

(b) The unit description of Section D.1 shall be changed as follows to redesignate profile line PL-4 as PL-3.

SECTION D.1 FACILITY OPERATION CONDITIONS

(1) Three (3) profile extrusion lines, identified as PL-1, PL-2, and PL-~~4~~**3**, respectively, using one (1) regenerative thermal oxidizer, identified as CE03, as control which exhausts to one (1) stack, identified as SC-3. Each profile extrusion line consists of the following equipment:

- (a) One (1) extruder;
- (b) One (1) foam profile die;
- (c) One (1) curing chamber; and
- (d) One (1) scrap line with an automated grinder and reclaim, identified as GR-8.

.....

(c) Condition D.1.2 shall be amended to include the 326 IAC 8-1-6 BACT requirements under Significant Source Modification 099-16015-00028.

D.1.2 General Reduction Requirements for New Facilities [326 IAC 8-1-6]

- (a) Pursuant to CP No. 099-9807-00028, issued on October 29, 1998, **and Significant Source Modification 099-16015-00028**, Best Available Control Technology (BACT) for the source has been determined to be the use of regenerative thermal oxidizers CE03 and CE04. CE03 and CE04 must each have an overall control efficiency of 98% for the manufacturing process of the foam sheet and profile lines, and must each have an overall control efficiency of 95% for the scrap lines.

.....

- (d) Condition D.1.8 shall be changed to reflect the redesignation of profile line PL-4 to PL-3 under Significant Source Modification 099-16015-00028.

D.1.8 Particulate Matter (PM)

Pursuant to CP No. 099-9807-00028, issued on October 28, 1998, **and Significant Source Modification 099-16015-00028**, the dust collectors for PM control shall be in operation at all times when SL-1, SL-2, PL-1, PL-2, PL-3 and PL-4 are in operation.

- (2) Replacing the Two Existing Small Bubble Pack Lines with a Single High-Speed Bubble Pack Line:

The only change to the permit necessary to incorporate the replacement of the two existing small bubble pack lines with a single high speed bubble pack line is changing Part 10(a) of Condition A.3 to reflect two bubble pack lines instead of three.

- (10) Other activities or categories not previously identified:

Insignificant Thresholds: Activities with emissions equal to or less than thresholds require listing only
Lead (Pb) = 0.6ton/year or 3.29 lbs/dayCarbon Monoxide (CO) = 25 lbs/day
Sulfur Dioxide (SO2) = 5 lbs/hour or 25 lbs/dayParticulate Matter (PM) = 5 lbs/hour or 25 lbs/day
Nitrogen Oxides (NOx) = 5 lbs/hour or 25 lbs/dayVolatile Organic Compounds = 3 lbs/hour or 15 lbs/day
(a) ~~Three (3)~~ **Two (2)** bubble pack wrap lines

.....

- (3) Upgrading Existing Polyethylene Foam Sheet Extrusion Line PL-2 and Redesignating this Line as BG-1:

In order to allow the proposed upgrade and redesignation of Line PL-2, the following changes to the permit shall be made:

- (a) The unit description of Condition A.2 shall be changed as follows to redesignate PL-2 as BG-1.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary packaging materials manufacturing plant consists of the following emission units and pollution control devices:

- (1) Three (3) profile extrusion lines, identified as PL-1, ~~PL-2~~**BG-1**, and PL-3, respectively, using one (1) regenerative thermal oxidizer, identified as CE03, as control which exhausts to one (1) stack, identified as SC-3. Each profile extrusion line consists of the following equipment:

- (a) One (1) extruder;
(b) One (1) foam profile die;
(c) One (1) curing chamber; and
(d) One (1) scrap line with an automated grinder and reclaim, identified as GR-8.

.....

- (b) The unit description of Section D.1 shall be changed as follows to redesignate profile line PL-2 as BG-1.

SECTION D.1 FACILITY OPERATION CONDITIONS

- (1) Three (3) profile extrusion lines, identified as PL-1, ~~PL-2~~**BG-1**, and PL-3, respectively, using one (1) regenerative thermal oxidizer, identified as CE03, as control which exhausts to one (1) stack, identified as SC-3. Each profile extrusion line consists of the following equipment:
- (a) One (1) extruder;
 - (b) One (1) foam profile die;
 - (c) One (1) curing chamber; and
 - (d) One (1) scrap line with an automated grinder and reclaim, identified as GR-8.
-

- (c) Condition D.1.2 shall be changed as follows to include clarify the requirements of Part (a)(2), to include in the first paragraph of Part (a), the capture systems as part of the means of satisfying BACT, to include in Part (a)(1), a requirement to operate the capture systems at all times, and include in Part (a)(2), a requirement to maintain the capture systems at the associated minimum negative pressure.
- (a) Pursuant to CP No. 099-9807-00028, issued on October 29, 1998, and Significant Source Modification 099-16015-00028, Best Available Control Technology (BACT) for the source has been determined to be the use of regenerative thermal oxidizers CE03 and CE04 **and their respective capture systems**. CE03 and CE04 **and their respective capture systems** must each have an overall control efficiency of 98% for the manufacturing process of the foam sheet and profile lines, and must each have an overall control efficiency of 95% for the scrap lines.
- (1) CE03 and CE04 **and their respective capture systems** shall each operate at all times to demonstrate compliance with the VOC limit of 249 tons per year, rolled on a monthly basis.
- (2) **When operating:**
- (A) **CE03 and CE04 shall each maintain a minimum operating temperature of 1500EF, or a minimum operating temperature as determined by the most recent compliance test that achieves a destruction efficiency of 98% for the manufacturing process of the foam sheet and profile lines and 97% destruction efficiency for the scrap lines.**
 - (B) **the capture system associated with CE03 shall be maintained as follows:**
 - (i) **Up to the time a minimum capture system inlet negative pressure achieving 100% capture efficiency is established by the first performance test, the capture system inlet pressure shall be maintained at the design pressure that is estimated to achieve the desired capture efficiency of 100%.**
 - (ii) **Upon completion of the first performance test, the owner or operator shall maintain the minimum capture system inlet negative pressure established by the first performance test.**

(iii) Upon completion of all subsequent performance tests, the owner or operator shall maintain the minimum capture system inlet negative pressure established by the most recent performance test.

- (d) Condition D.1.3 shall be changed as follows to redesignate line PL-2 as BG-1.

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) overspray from SL-1, SL-2, PL-1, ~~PL-2~~ **BG-1**, PL-3, and PL-4 shall be limited by the following:

.....

- (e) Condition D.1.5 shall be changed as follows to redesignate line PL-2 as BG-1.

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-4(c)(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for SL-1, SL-2, PL-1, ~~PL-2~~ **BG-1**, PL-3, and PL-4 and any control devices.

- (f) The testing requirements of Condition D.1.6 shall be changed as follows to ensure that the owner or operator conducts compliance stack tests to include in the general source stack testing requirement of Part (a), a requirement to test for the minimum negative pressure at the inlet of the capture system, and add a separate requirement (Part (c)) to require stack testing for CE03 and its associated capture system to establish the oxidizer and capture system operating parameters associated with Significant Source Modification 16015.

D.1.6 Testing Requirements [326 IAC 2-7-6(1)]

- (a) Testing of this facility is specifically required by this permit. Compliance with the control efficiency, ~~and~~ minimum operating temperature, **and minimum negative pressure at the inlet of the capture system** specified in Condition D.1.9, shall be determined by a performance test conducted in accordance with Section C Performance Testing.

Retention data tests shall also be determined by a performance test conducted in accordance with Section C Performance Testing.

- (b) During the period within sixty (60) days after the issuance of the first minor permit modification, a performance test on the regenerative thermal oxidizer designated as CE04, shall be required to demonstrate that the source is complying with 326 IAC 8-1-6.
- (1) If the oxidizer is determined to demonstrate compliance, the required temperature and control efficiency shall be specified.
- (2) If the oxidizer is determined to not demonstrate compliance, the efficiency needed to comply with 326 IAC 8-1-6 shall be determined by the performance test.
- (3) The source shall be required to comply with the required control efficiency as determined by the performance test.
- (c) **During the period within sixty (60) days after commencement of operation under Significant Permit Modification 099-16299-00028, a performance test, as approved by the Commissioner, on regenerative thermal oxidizer CE03 and its associated capture system, shall be performed to determine the thermal oxidizer operating temperature and the negative pressure at the inlet of the capture system necessary to achieve the 98% overall control efficiency required in Condition D.1.2(a).**

- (1) If the oxidizer and capture system are determined to be in compliance, the required temperature, capture system inlet pressure, and overall control efficiency shall be specified.
 - (2) If the oxidizer and(or) capture system is(are) determined to not be in compliance, additional testing shall be conducted until a temperature for thermal oxidizer CE03 and(or) an inlet pressure for the capture system is(are) established that demonstrate compliance with the overall control efficiency of 98% required in Condition D.1.2(a).
- (d) Retention data tests, shall be ran on all grades being utilized by the source to verify the emission factors used in establishing the blowing agent and VOC emission limits. The source shall calculate the potential to emit (PTE) based on the worst case emission factors until the various emission factors for all other sheet grades have been verified and approved by OAM.
- (g) Condition D.1.8 shall be changed to reflect the redesignation of line PL-2 to BG-1 under Significant Source Modification 099-16015-00028.
- D.1.8 Particulate Matter (PM)
- Pursuant to CP No. 099-9807-00028, issued on October 28, 1998, and **Significant Source Modification 099-16015-00028**, the dust collectors for PM control shall be in operation at all times when SL-1, SL-2, PL-1, ~~PL-2~~**BG-1**, PL-3 and PL-4 are in operation.
- (h) Condition D.1.9 shall be changed to reflect the redesignation of line PL-2 to BG-1, to clarify the requirements of Part (b), and include in Part (b), a requirement to maintain the capture systems at the associated minimum negative pressure.

D.1.9 Regenerative Thermal Oxidizer and Capture System Operations

- (a) CE03 and CE04 shall each operate at all times SL-1, SL-2, PL-1, ~~PL-2~~**BG-1**, PL-3, and PL-4 are in operation to demonstrate compliance with the VOC limit of 249 tons per year, rolled on a monthly basis.
 - ~~(b) When operating, CE03 and CE04 shall each maintain a minimum operating temperature of 1500°F, or a minimum operating temperature as determined by the most recent compliance test, in order for each to maintain a 100% capture efficiency and a 98% destruction rate for the manufacturing process of the foam sheet and profile lines, and a 98% capture efficiency and a 97% destruction rate for the scrap lines.~~
- (b) When operating:
- (1) CE03 and CE04 shall each maintain a minimum operating temperature of 1500°F, or a minimum operating temperature as determined by the most recent compliance test that achieves a destruction efficiency of 98% for the manufacturing process of the foam sheet and profile lines and 97% destruction efficiency for the scrap lines.
 - (2) the capture system associated with CE03 shall be maintained as follows:
 - (A) Up to the time a minimum capture system inlet negative pressure achieving 100% capture efficiency is established by the first performance test, the capture system inlet pressure shall be maintained at the design pressure that is estimated to achieve the desired capture efficiency of 100%.

(B) Upon completion of the first performance test, the owner or operator shall maintain the minimum capture system inlet negative pressure established by the first performance test.

(C) Upon completion of all subsequent performance tests, the owner or operator shall maintain the minimum capture system inlet negative pressure established by the most recent performance test.

(c) The owner or operator shall install, calibrate, operate and maintain:

(1) a device that continuously records the combustion temperature of any effluent gases incinerated. This device shall have an accuracy of $\pm 2.5^{\circ}\text{C}$ or ± 0.75 percent of the temperature range measured in degrees Celsius, whichever is greater; **and**

(2) a device that intermittently monitors and records the pressure at the inlet of the capture system;

to achieve compliance with the limit in Condition D.1.2.

(i) Condition D.1.10: The record keeping requirements of Condition D.1.10 shall be amended to include record keeping of the minimum pressure drop at the inlet of the capture system.

.....

(b) Continuous or intermittent readings of the minimum operating temperature shall be maintained to document compliance with Condition D.1.9.

(c) Intermittent readings of the minimum negative pressure at the inlet of the capture system shall be maintained to document compliance with Condition D.1.9.

(ed) Records of all malfunctions (any sudden unavoidable failure of the thermal oxidizers, CE03 and CE04) which result in violations of the Office of Air Management rules shall be kept for a period of three (3) years and made available to OAM upon request. When a malfunction resulting in a limit or parameter deviation occurs that lasts in excess of one (1) hour, notification of the condition shall be made to OAM no later than four (4) daytime business hours after the occurrence.

(ed) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Conclusion

The proposed modification shall be constructed and operated according to the provisions of the existing Part 70 permit, the requirements of attached proposed Significant Source Modification No. 099-16015-00028, and the requirements of Significant Permit Modification 099-16299-00028.